

Name: _____

Date: _____

PCW__09__22 Coordinate transformations v2

Question 1

Consider the two functions f and g , where g is defined as a transformation of f :

$$g[x] = 4 \cdot \left(f \left[\frac{x+2}{3} \right] + 7 \right)$$

For point (a, b) on curve f there is a corresponding point on the curve g . Write the coordinate transformation.

$$(a, b) \rightarrow (3a - 2, 4(b + 7))$$

Question 2

Consider the two functions f and g , where g is defined as a transformation of f :

$$g[x] = 5 \cdot f \left[\frac{x-4}{9} \right] + 2$$

For point (a, b) on curve f there is a corresponding point on the curve g . Write the coordinate transformation.

$$(a, b) \rightarrow (9a + 4, 5b + 2)$$

Question 3

Consider the two functions f and g , where g is defined as a transformation of f :

$$g[x] = 6 \cdot \left(f \left[\frac{x}{7} + 9 \right] - 4 \right)$$

For point (a, b) on curve f there is a corresponding point on the curve g . Write the coordinate transformation.

$$(a, b) \rightarrow (7(a - 9), 6(b - 4))$$

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Question 4

Consider the two functions f and g , where g is defined as a transformation of f :

$$g[x] = \frac{f[2(x+6)]}{8} - 7$$

For point (a, b) on curve f there is a corresponding point on the curve g . Write the coordinate transformation.

$$(a, b) \rightarrow \left(\frac{a}{2} - 6, \frac{b}{8} - 7 \right)$$

Question 5

Consider the two functions f and g , where g is defined as a transformation of f :

$$g[x] = \frac{f\left[\frac{x}{7} - 3\right]}{9} + 8$$

For point (a, b) on curve f there is a corresponding point on the curve g . Write the coordinate transformation.

$$(a, b) \rightarrow \left(7(a+3), \frac{b}{9} + 8 \right)$$

Question 6

Consider the two functions f and g , where g is defined as a transformation of f :

$$g[x] = \frac{f[4x - 9] - 2}{5}$$

For point (a, b) on curve f there is a corresponding point on the curve g . Write the coordinate transformation.

$$(a, b) \rightarrow \left(\frac{a+9}{4}, \frac{b-2}{5} \right)$$